

SWITCHED CAPACITOR CIRCUIT CAPABLE OF MINIMIZING CLOCK FEEDTHROUGH EFFECT IN A VOLTAGE CONTROLLED OSCILLATOR CIRCUIT

Abstract

A switched capacitor circuit for use in a voltage controlled oscillator (VCO) capable of minimizing clock feedthrough effect and an undesired momentary frequency drift in the VCO output frequency when the switched capacitor circuit is shut off. By gradually switching the switched capacitor circuit from an on state to an off state the clock feedthrough effect can be minimized. When switching the switched capacitor circuit to an off state, the control signals are sequenced to shut the switch elements off in an order based on decreasing switch size. The smallest switch element can have a low-pass filter added to its control terminal to further decrease the clock feedthrough effect. The subthreshold and leakage currents passing through the largest switch elements are blocked by the use of an additional switch element to isolate the largest switch element.